

DENVER PC BOARDWATCH

NEWSLETTER FOR ELECTRONIC BULLETIN BOARDS AND ON-LINE SERVICES

Editor: Jack Rickard Volume II: Issue 3 ISSN: 0894-5209 April 1988

TELE-BITS

THE BBS LIST

This month **Denver PC Boardwatch** presents a list of **193** bulletin boards/on-line services available in area code **303** - see page 12. With the addition of area code **719** to Colorado, our list loses nearly **60** BBS to the new area. In this month's list, boards are grouped by computer type and alphabetically within types. As always, each number is verified by actual telephone contact. Additions and major changes to the list since last month are highlighted in bold face type. Corrections can be addressed via the **Denver PC Boardwatch** Echomail Conference, by Fidonet Mail addressed to **MARION RICKARD** via Net **104** Node **30**, or to **M.RICKARD** on the General Electric **GENie** information service.

MOSCOW BELL

Teleconnect Magazine reports some interesting statistics concerning telephone service in the **USSR**. Residential service costs about **\$4.20** monthly and it can take up to four years to have one installed. Outside of the metropolitan area it's likely to be even longer. Local calls are free. The system does not publish a telephone directory. If you do dial information, they may ask who is calling and why you want a particular number. Roughly **25%** of urban families have service while less than **10%** of rural households sport Mr. Bells device. Overall, Russia has **9** telephones per **100** people while the United States has **79**. Thinking of trying the service out? You still can't dial Russia direct and it can take as long as **30** hours to get a line on one of the **slx** trunks linking the continental US with Russia. What we don't understand is why most Russian citizens don't just subscribe to a national news magazine (**TIME**, **NEWSWEEK**) and take advantage of their offer of a free phone with each paid subscription.

MAC 2400 BPS INTERNAL MODEM

Epic Technology, Inc. has announced a **2400 bps** internal modem for the **Macintosh SE** or **Mac II** computer. The modem provides autodial/answer capabilities and is compatible with the Hayes AT command set. The new modem offers a five year warranty and a price of **\$349**. Epic Technologies, 46733 Fremont Blvd., Fremont, CA 94538. (800)634-9992.

IBM USER GROUP LOCATOR SERVICE

IBM Corporation maintains an automated **User Group Locator Service** in Atlanta at (404)988-2782 listing PC users groups around the nation. The service requires a touch-tone phone and operates using a synthesized voice that is just a bit curious in timbre. The service allows you to search for user groups by area code (enter **1**) or zip code (enter **2**). We entered area code **303** and located user groups in Loveland, Salida, and Colorado Springs. To list or update your group, contact IBM PC Users Group Coordinator Vicki Cleveland in Atlanta at (404)988-1172. Finding a particular service or individual within IBM's **400,000** person network can at times be a bit exasperating. Save yourself some time and money. IBM has a most helpful free **Customer Info Center** line at (800)426-3333. On this story, we found out about this toll-free service exactly **23** long-distance telephone calls too late.

SPORTS HOTLINE

Rocky Mountain News has inaugurated a **SPORTSLINE** service at (303)623-8877. The service is free, voice only, and provides up-to-the-minute sports results **24** hours daily via a recorded message.

THERE'S MORE FOR YOUR LIFE

Forbes Magazine reports that Sears, Roebuck & Company is IBM's second largest customer with over **2500** mainframe computers capable of executing over **3 billion** instructions per second. Over **85%** of Americans shop at Sears each year. The **\$48 1/2 billion** annual revenue enjoyed by this retailer comprise **5%** of the country's general merchandise sales and over **1%** of our nation's gross national product. They sold slightly more than **800,000** garage door openers last year. This is the kind of valuable statistical information we live for.

IRS AUTOMATED HOTLINE

The tax season is upon us. Locally, the IRS has inaugurated an automated service for touch-tone telephones to provide a status report on your tax return. Dial (303)592-1118 in Denver or (800)554-4477 from outstate between **6 AM** and **6 PM**. Enter your social security number to obtain the processing status of your return.

NEW 3.0 RELEASE OF TELIX EXPECTED

As of this writing, local fans of Canadian Colin Sampaleanu's popular **Telix 2.12** communications program are waiting breathlessly for the new **3.0** release of the program originally scheduled for **February 24, 1988**. Telix is known for a very clean, uncluttered appearance and a very fast, snappy keyboard action with good file transfer protocols. The new release is significant in that it is rumored to directly incorporate Chuck Forsberg's popular **ZMODEM** file transfer protocol. If so, Telix would become the first of the popular shareware communications programs to do so and it would very likely give the program a big boost in popularity. Many users have been using **ZMODEM** as an external program because of its versatility and speed in transferring files. But calling an external program to do a file transfer can be slightly awkward - largely eliminating the speed and ease of use advantages. The program was last updated on **February 24, 1987**. Telix is well supported with a national echomail conference available on BBS across the country where you can actually post messages directly to author Colin Sampaleanu who generally answers most messages from his home in Toronto. Locally, the echomail conference is available from **THE 8TH SEA BBS** at (303)252-9235. PTeI, 276 Guildwood Parkway, Toronto, Ontario M1E-1P9; (416)662-8254 (support BBS).

MARS VIKING PHOTO HOTLINE

The Mars Project of Casa Grande Arizona is offering a set of eight photos of Mars from the series taken by the Viking spacecraft. The eight photos offer views of some Mars surface features widely referred to as the Face as well as some pyramidal shapes some are suggesting imply an ancient city on Mars. Interest in a manned mission to Mars is increasing both in the United States and in the Soviet Union. The set of eight makes the more local trip via US Mail for \$20. Mars Project, RR1 Box 473-B, Casa Grande, AZ 85222; (800)346-9808.

LONG DISTANCE USERS MANUAL

Dr. Robert Self claims there are **1500** ways to make a long distance telephone call in the United States with prices varying by as much as **2000%**. A call can vary from **\$0.06** per minute up to **\$1.20** per minute depending on some basic decisions you make before dialing. The third edition of his book **LONG DISTANCE FOR LESS** is now available and covers such recent esoterica as AT&T's Pro America and MCI's Prism I services as well as the ins and outs of **800** service. The tome weighs in at a hefty **576** pages and costs a portly **\$75** per copy. It's touted as the "Official Guide" to long distance telephone services in the United States. To order, dial **(800)LIBRARY**.

NEW MOUNTAIN BELL POLICY ON 976

Mountain Bell has announced some striking policy changes regarding the use of **976** Scoop Line services. After recent outcries over **\$800** telephone bills rung up by local adolescents as well as the outcry over the plethora of sex talk services, Mountain Bell is now offering to block calls to all **976** numbers from any residential telephone line at no charge. To have this block installed on your line, simply dial **(303)896-1111** and give them your pertinent statistics (name, phone, etc.) Note that subsequent changes to allow **976** access or re-install the block will cost **\$8.50**.

Mountain Bell is also considering plans to move all numbers offering sexually related services off the **976** exchange to a new **960** exchange. This will also stop the current practice of billing for these services on their customers' regular Mountain Bell Telephone bill. Mountain Bell has already cancelled service to some **35** sex-by-phone services violating the current **976** contract.

Before blocking the line, make sure no services are offered via **976** that you might use in the future. For example, General Electric Information Service **GENie** plans a **976** demonstration/trial use service where you can use **GENie** without a credit card and have it billed to your home phone. They will test this offering in Denver first. **WeatherBank Computer Operations** of Salt Lake City offers a fascinating modem weather service at **976-7644**. The service provides a vast storehouse of current weather information via modem at **\$0.30** per minute. For example, to get the **National Weather Service** forecast for the Denver area, enter **NWS 2,DEN**.

VIRUSES STRIKE COMMODORE COMMUNITY

It seems no one is safe from the current nationwide epidemic of software vandalism involving "virus" and "trojan" programs. Trojan programs are innocuous looking programs uploaded to electronic BBS. Once activated, they reek havoc on the victim computer system by erasing all data on hard drive units. Viruses, on the other hand, generally lie dormant for a specified period replicating itself several times and spreading to other disks and eventually other computer systems. After replicating itself, the virus may do something as innocent as displaying a humorous message, or as dangerous as repeatedly exercising hard drive read/write heads to the point of mechanical failure.

Recently, several local IBM systems have been victimized by several Trojan programs including **PKSTORY.EXE** and **SURF.EXE**. Now, apparently the Commodore systems are suffering their own tribulations. John Almon of **COMM-NET INFORMATION**

SERVICE (303)366-2341 reports a major discovery of virus programs affecting **Commodore C-64, C-128,** and **Amiga** computers. After several suspicious reports, Comm-Net shut down operations on **February 19** for a **36** hour marathon of program examination. Over **60,000** blocks of data was examined file by file to clean up the system. The final tally: **6** viruses for **C-64/C-128,** **3** virus programs for the **Amiga** series.

Mr. Almon describes the **C-64** viruses as sophisticated and destructive. Apparently they can linger undiscovered for days and even be passed on innocently by unsuspecting users. "We thought we had avoided this problem by allowing upload access only to paid subscribers", Mr. Almon stated. Apparently, several had inadvertently uploaded infected software to the system. Worse, there is a possibility that at least one program was downloaded from the nationwide Commodore commercial service, **Q-LINK.**

The **C-64** viruses include **SUPER CLEANER, THE LAST CLEANER, DISK HOUSEWIFE, DISK JANITOR, SUPER BOOT,** and **COLLECTOR** - all ostensibly disk utility programs. All appear to be basically the same virus residing naturally in track **17** on the disk. When the program is run, the virus copies itself into memory. As long as power to the computer is maintained, it will wait there. Each time a disk is accessed, the virus randomly selects a file title from whatever diskette is in the drive at the time and copies itself onto the diskette under that file name. The only change is that the file length is altered to **13 blocks** from whatever it was previously. To check a downloaded program for this virus:

- **1.** Mount the downloaded program by itself on a single diskette.
- **2.** Note the file size of the program.
- **3.** Run the program twice (minimum).
- **4.** Recheck the file size. If it's changed, especially to a value of **13 blocks,** you probably have a virus. Remove the diskette. Remove all power to your computer.

The Amiga programs are considerably less sophisticated. They simply keep replicating themselves to disk, gradually using up more and more disk space. The offending titles seem to be **SUPER GRAPAK.ARC, GREAT HOUDINI.ARC,** and **DISK MAGIC.ARC.**

Comm-Net is a five-line subscriber database for Commodore computers soon to offer nearly **80 MB** of software using the **ZTECH LT. COLONEL** hard drives.

You may dial up the system and browse the offering but upload/download requires a subscriber fee.

MAC VERSION OF FIDO - TABBY

One of the fastest growing national Fidonet echomail conferences is **EchoMac.** The conference offers news and tips for users of Apple Computers' popular Macintosh computer system. Ironically, until recently Macintosh owners were made to suffer the humiliation of accessing the conference via IBM-based bulletin board systems. It seems none of the BBS software available for Macintosh computers would allow them to act as Fidonet nodes. Michael Connick, a New Jersey computer consultant has offered to license a program titled **TABBYNEWS** to BBS software authors to add Fidonet compatibility to their product. Scott Watson authors the most popular Macintosh BBS software in the country with **RED RYDER HOST.** He's already announced that the next version will support Fidonet using **TABBY.** There are nearly **500** Macintosh BBS running **RED RYDER HOST** and many may be expected to join Fidonet with the new release. For more info concerning Red Ryder, contact the Freesoft Company, 150 Hickory Drive, Beaver Falls, PA; **(412)846-2700.**

NEW AREA CODE

As mentioned in earlier issues, Colorado has been split into two area codes with roughly the southeast third of the state assigned the new **719** area code. The expense and annoyance involved for hundreds of businesses and individuals just to change their printed stationary is enormous. Why was the change made? It seems that the national numbering system allows up to **640** telephone exchanges (the first three digits of your local number) within each area code. Apparently, area code **303** has currently allocated **636** already. Mountain Bell has established a toll-free hotline for those with questions about the new area code at **(800)555-5000.**

IBM SHAREWARE SOURCES

One of the big elements of the surge in BBS popularity is access to a vast source of very low cost software via the shareware distribution system. But the trend in shareware is toward larger and larger files and that corresponds to longer and longer connect times. Additionally, it is becoming more common to read reviews of shareware in national magazines and your favorite BBS may not have it in stock. It can at times be inconvenient to dial **200** BBS in the hopes that one of them has your program and is willing to let you download a **450 KB** file at **300 bps.** **RL Computer Service** offers a fairly attractive deal locally on shareware. The firm will mail shareware programs to users on disk via first class mail for **\$3.25** per disk, **\$3.00** shipping and handling, and **7%** sales tax. When you add it all up, the total is still under **\$7** for the first diskette and around **\$3.50** for

each additional - an attractive price. Proprietor Richard Polaski's claims are even more astounding. He says he stocks over **500** titles, tests almost every one personally, and provides **FREE telephone support** to anyone he sends the programs to. We're not too sure just how he intends to make a fortune selling software at **\$3.25** per and offering unlimited telephone support but if it does work out, we'd like to see it catch on across the board. Note that the service is a copy service and users ordering this software are in almost all cases still liable for the requested shareware registration fee if they find the program useful and continue to use it. RL Computers offers a catalog at **\$2** and promises that all orders shipped within two business days. R.L. Computer Service Inc., 7985 Vance Drive, Suite 102, Arvada, CO 80003; (303)467-3130.

ISDN FINALLY APPEARING

Southern Bell Telephone will install the nation's first **ISDN** network connecting more than one commercial user. The first customers on the new system include Hayes Microcomputer Products, Trust Bank of Georgia, Prime Computer Inc., AT&T Network Systems, and Contel Corporation. The new service is billed at roughly **1 1/2** times basic business phone service - a move that has surprised many industry analysts.

The **ISDN** acronym stands for Integrated Services Digital Network. This new data line standard has been in development for several years now. It promises such exotic services as videotelephone and calling party identification. It also features a **64 kbps** data service allowing personal computers to swap data at unheard of speeds over a wide-area network.

Apparently Hayes Microcomputer has already developed an internal circuit card connecting PC's to **ISDN** and more are on the way. A singularly attractive feature of **ISDN** when it does become available to residential customers is that it would allow different conversations to be held from different extension phones in the house via a single line. For example, one person could download a file from a BBS while another family member called the neighbor and a third made a long distance phone call to grandma. **ISDN** promises an entirely new world in telephone services. We'll be covering **ISDN** developments regularly in **Denver PC Boardwatch**.

COLOR SLIDES/TRANSPARENCIES ON-LINE

AGS&R Communications of Chicago offer a service allowing users to upload graphics output from a number of graphics software packages to their BBS and receive **35mm** color slides, overhead transparencies, or laser printer output in return. The service supports AutoCAD, Lotus 123, Freelance Plus, Harvard Presentation Graphics, and Microsoft Chart. Company spokesmen

claim they will add support for virtually any software product at customer request. Users can upload graphics data to the BBS or mail it in on diskette. Color slides are generally **\$8-12** each depending on resolution with next day delivery available at extra cost. AGS&R Communications, 425 North Michigan Ave., Chicago, IL 60611; (312)836-4500 voice.

LOCAL ACCESS

MICROLINK NETWORK

A group of local sysops have begun to band together into a small mini-network of BBS that seems to be growing. Most of these boards run **TBBS** software, feature the **USR HST 9600** modem, sport extensive software download libraries, and express at least a passing interest in radio technology - hence the **MICROLINK** title. The original Microlink BBS is Girard Westerburg's **MICROLINK B 104/108** operating at (303)972-9600. His board runs on **TBBS** software and provides a wealth of download software. He recently instituted a **\$25** one-time access fee. More recently, John Anderson added **MICROLINK C 104/53** running **TBBS** software. This board, still free, recently changed numbers to (303)455-9600. Interestingly, it offers the old **ELIZA** program on-line. You can converse with this program as if it were a somewhat obstinate but patient psychoanalyst.

The -9600 number series seems to be catching on. John Maxwell has operated **CONTROL POINT 104/711** at (303)526-9642 using **OPUS** software. He recently converted his board to **Quick BBS** software, changed the name to **MICROLINK D 104/711**, picked up on the **\$25** access fee idea, and currently waits for a -9600 number assignment from Mountain Bell. Paul Smith wasn't nearly as lucky. He brings us a brand new free BBS in a telephone exchange where 9600 was already taken. As a result, he titles his board **MICROLINK MINUS TWO 104/204** and operates at (303)329-9598 which, as the title implies, is only two off the mark. Paul is running **TBBS** as well. The boards are gradually becoming more "linked" with shared message and file areas. In some message areas, you can enter a note and have it appear on all Microlink boards. The boards also provide access to the Fidonet as well. The Microlink series of BBS offer one of the better area libraries of shareware software available for download. Interestingly, these four Microlink Amigos have also joined forces to form **Professional Computer Sales Incorporated**. The venture will market everything from computer components and supplies to installed turnkey systems with mail order and BBS sales in addition to a new retail site in the Southwest metro area that should be ready in April. Given the engineering background of the principles involved, they should do well at it. Professional Computer Sales, 6893 South Zephyr, Littleton, CO 80123.

QUICK BBS GROWTH

What's the hottest new shareware product in town? It's a BBS program titled **Quick BBS** and it's written by a gentleman named Adam Hudson who should be up soon for a drivers license. Despite his age, don't sell this guy short. We found his name and BBS number on a New Mexico list from at least 3 years ago. It seems he ran a BBS in Albuquerque then. Rumor has it he was **Region 15** Fidonet coordinator at age 11 and was involved in Fidonet early enough to see the first Region/Net divisions established. He has since moved to the Arvada area and operates **QUICK BBS SUPPORT BOARD 104/24** at (303)423-3114.

The new software was first released in **December 1987** and is currently in release **2.0** as of **March 1, 1988**. We wanted to do this story listing the number of BBS running **Quick BBS** locally. We don't know. Everyone we talk to has "just converted". Our most recent figure is **17** BBS locally with out-of-state boards operating from New York to California. But the count is a moving target. Sysops are deserting **OPUS** in droves for the new software and Denver appears to be converting to a **Quick BBS** town with regards to BBS software.

For the user, **Quick BBS** resembles **TBBS** with slightly more elaborate graphics and some advanced file transfer protocols including **SEALink**. We had previously reported some possible difficulties with the **SEALink** file transfer protocol. We now think it was the **GT PowerComm** communications package that had the problem. **Quick BBS** seems to work fine with the other communication packages.

The product is offered as shareware with a **\$25** registration fee and over **30** sysops have already registered the program. Support among local sysops verges on religious fervor with Mr. Hudson reportedly providing excellent support and in some cases personal installation. A **QUICK BBS** echomail conference has started up and made it into national distribution via the Fidonet.

We understand from reliable sources that a local and highly secret echomail conference has come into existence carrying discussions of Mr. Hudson's social life as well. In any event, it may well be that the next nationwide BBS software hit will come right of Arvada under the **Quick BBS** monicker. With **TBBS** already a worldwide BBS software standard, the Denver area may become known as BBS software central.

FIDONET NOTES

Rod Lamping succeeds Oscar Barlowe as the net **104** coordinator serving the Denver area. Apparently Oscar succumbed to a common complaint of "sysop burnout" and has decided to rejoin his family - at least for dinner. Rod had been the net Echomail coordinator for some time handling the intricate work of routing echomail received from around the country to the various local boards. In addition, to his new duties, Rod is reopening his popular BBS **THE 8TH SEA** to new users. The board operates at (303)252-9235 on a **10 MHz AT** compatible unit featuring an impressive pair of **71 MB** hard drives. **THE 8TH SEA** recently converted to Adam Hudson's popular **QUICK BBS** software and now features over **50** echomail conferences on-line. If you're curious as to what Echomail has to offer, a quick cruise of just the menus on this board can be an education. As far as we know, no one actually displays more echomail conferences in the local area. We had noted in an earlier issue the excellent layout of the file areas on this board. Coincidentally, this was just about the time Mr. Lamping had closed his board to new users because of the overhead in routing echomail. Fortunately, he now has that under control and is reopening his board for general access. If you want to see more echomail than you could ever read along with some well arranged software areas, this board is a must. The line also tends to be a bit busy, but for the persistent, there's treasure on this sea bottom.

TROUT UNLIMITED

Probably the most interesting BBS have little or nothing to do with computers at all. Ralph Stewart's **TROUT UNLIMITED BBS** at (303)499-2828 would probably fall into that category. The Fido based board operates in conjunction with a Boulder fishing club and features a wealth of information on the when, the where, and the how of catching trout and other fish. All users are most pleasantly welcomed. We were fascinated by a recent discussion of "belly boating" and the best way to attach beer cans to this item of fishing rig. The board also maintains a **FISHNET** database which seems to be fashioned after some of the adult dating boards but with an eye toward matching up fishing partners. The board also features some data on water conditions, fishing club newsletters, and other items of fish/outdoor lore with a distinct conservationist bent. Notably missing were the several hundred aging software utilities found on most boards and the familiar discussion of who said what vicious thing to whom last. If you're having any ideas about beating the water to a white froth with your fly-fishing rig once the ice breaks up, you might find this board interesting, friendly, and certainly enjoyable.

PASSAGES

Andy Velasquez takes his popular **MUSICIAN'S DEN 104/17** BBS down to move operations to Phoenix. Chuck Peltó, sysop of the **MENSA** board titled **DEMENTIA** is moving to Colorado Springs. **DEMENTIA** will be restored there with the new monicker **COMMENT** in the future. Steve Carnes of **THIS END UP 104/30** at (303)430-1585 celebrates one year of operation as of March 3rd. Steve recently added the **ASTRONOMY** echomail conference and carries the local **DENVER PC BOARDWATCH** echo as well.

LONG DISTANCE USA

UNKNOWN BBS

Henry Birdseye once ran one of the more popular local BBS here in Denver titled **UNKNOWN BBS**. Last August, Henry made a change in jobs as well as scenery by moving to Saint Louis Park Minnesota, a Minneapolis suburb. He has revived his board virtually intact with many of the same jokes and bumper stickers at a new number (612)926-8877. Although he at one time maintained the areas most comprehensive electronic list of BBS, he has pretty much dropped that in Minnesota since there are several local boards there that maintain pretty good lists. Those who used to frequent his board locally might want to give him a call.

PORTAL ADDS MACINTOSH SIG

Portal Communications Company of Cupertino has announced the addition of a Macintosh special interest group (SIG) on their popular flat-rate commercial service **PORTAL**. The new SIG is run by Bob Murrow and Mark Cookson. The SIG will feature a wealth of Macintosh software including "Hyperstacks" used by the new Hypercard program. Cookson maintains that they have the largest collection of this stackware in the country.

Portal is a flat-rate communications service offering users unlimited connect time at \$10 monthly. The service provides E-Mail, on-line conferences and access to **UUCP**, **ARPA**, **BITNET**, and other mail networks. Portal has an on-line demo/signup line at (408)725-0561. **PC PURSUIT** users can connect directly by entering **C PORTAL, ID, PASSWORD**. Portal Communications, 19720 Auburn Drive, Cupertino, CA 95014; (408)973-9111 voice.

SPACE/ASTRONOMY BBS

Our national list this month focuses on the subject of space exploration/astronomy. Blessed with some of the nations clearest night-time skies, Colorado has a healthy number of individuals interested in astronomy and with rocket plants in Waterton and Pueblo, the space program holds more than a passing interest in the state as well. As a result, Colorado made a particularly good showing in our list. Tom Meyer and Roger Brumley, of the local **SPACE NETWORK BBS (303)494-8446**, graciously allowed us to use their extensive national BBS list as source data for our listing. You will find much more detailed information on each of the listed boards in the on-line text file they maintain with assiduous attention to detail and obviously some effort. Note that General Electric's **GENie** service has added a space exploration roundtable. Type **SPACE** at any prompt. **Dr. Ben Salar** represents **NASA** in the area while sysops are Bill Dale and Dave Zimmerman.

BPI ADLINE

Business People Inc. of Minneapolis maintain what amounts to an on-line employment service for engineers, data processing/MIS workers, and software professionals. The service operates at (612)941-3957 and provides a wealth of information concerning job openings at over a dozen high-technology companies. Additionally, the service allows prospective employees to upload ASCII text resume's directly to employers on the board. In response to the request for a password, enter **BPI**. Business People Inc., 100 North Seventh St., Minneapolis, MN 55403; (612)370-0550 voice.

INFO LINE

A company in Boston, known creatively enough as Info Corporation, has operated a **FREE** on-line service titled **INFO** since 1985 at (617)247-3048. The service is supported by advertisers who pay \$90 monthly for a minimum of 3 months to post an ad screen on the service. Current supporters include Charles Schwab, Epic Modems, Crystal Water Works, and others. The service offers on-line stock prices, real estate info, area ski conditions, shopping, a section on the Boston Computer Society, and more. Set modem parameters for 7 data, Even parity, and 1 stop bit for best results.

AMERICAN PEOPLE LINK

One of the less expensive commercial on-line services is American People Link in Chicago. This service features a relatively low sign-up fee (\$15) and on-line connect charges of just under \$5 an hour. The service features E-Mail, conferencing, and SIGS and has catered pretty much to the home entertainment market until recently. The service now seems directed toward wooing business customers. Recently, they in-

SPACE/ASTRONOMY RELATED BBS

TITLE	AFFILIATION	LOCATION	TELEPHONE
Alpha	Alpha SCINET	Denver, CO	(303)367-1935
Amsat	Radio Amateur Satellite Corp.	Indianola, IA	(515)961-3325
Apple Astronomy	Houston Museum Natural History	Houston, TX	(713)526-5671
Astro	Kurt Riegel	Arlington, VA	(202)547-4418
Black Hole	Clint Labarthe	Winter Park, FL	(305)260-6397
Celestial Datatech	TS Kelso	Austin, TX	(512)892-4180
Comm-Post	Boulevard Insurance	Denver, CO	(303)534-4646
Datalink RBBS	L-5 Society	Dallas, TX	(214)394-7438
Day's End	Chris Day	Westminster, CO	(303)650-5636
Digital Newsletter		St. Paul, MN	(612)426-0000
Epoch 2000	Weston Computer Observatory	Colorado Springs, CO	(303)531-6172
Eye of Osiris	Gary Paxinos	Boca Raton, FL	(305)973-1947
Howard's Notebook	Jim Howard	Raymore, MO	(816)331-5868
Kalamazoo Astronomical Society		Kalamazoo, MI	(616)342-4062
Killer BBS	Unix Connection	Bedford, TX	(214)827-4670
L-5 Galesburg	Prairieland Computer Club	Galesburg, IL	(309)343-3799
L-5 Minnesota	L-5 Society	Minneapolis, MN	(612)920-5566
L-5 SpaceNET	California Space Develop. Council	Milpitas, CA	(408)262-7177
M-Net	Public Access Unix	Ann Arbor, MI	(313)994-6333
Naval Observatory BBS	US Naval Observatory	Washington D.C.	(202)653-1079
NOAA BBS	NOAA Space Environment Lab	Boulder, CO	(303)497-5000
Novac BBS	Northern Virginia Astronomy Club	Springfield, VA	(703)256-4777
Permanent BBS	Program to Employ Resources of	Arlington, VA	(703)450-2732
	Moon and Asteroids Near Earth in		
	the Near Term		
Pittsburgh L5 BBS	Pittsburgh L5 Society	Pittsburgh, PA	(412)464-1397
Silent Side	Saguaro Astronomical Club	Mesa, AZ	(602)962-7698
SDI Clearinghouse	Northern California L-5 Society	Morgan Hill, CA	(408)778-3531
Space Network	Mars Institute of Planetary Society	Boulder, CO	(303)494-8446
Star-Net	Chuck Cole	Minneapolis, MN	(612)681-9520
Starport Info Service	Jim Bolster	Old Greenwich, CT	(203)698-0588
Well, The	Whole Earth Lectronic Link	Sausalito, CA	(415)332-6106
Yokohama Science Center BBS	Yokohama Science Center	Yokohama Japan	(045)832-1177

augurated an **EXPRESS MODEM SIGNUP NUMBER** at (800)826-8855. The service is advertised in several magazines as a way to get a free one hour cruise on the system. Actually, the number provides three options: Signup Plan A, Signup Plan B, or logoff. The logoff function does take your name, address, and

phone and promises to send you a packet of information along with a free one hour session. American Home Network, 350 North Clark St., Suite 650, Chicago, IL 60610; (800)524-0100 voice.

COMPUTER SPORTS WORLD

The Chronicle Publishing Company of San Francisco brings us a unique on-line commercial database in **COMPUTER SPORTS WORLD**. The service, first established in 1983, is available via Telenet, Tymnet, or Compuserve Network. It provides up-to-the-minute sports scores and results, weather reports, team logs, Las Vegas point spread/odds, and other information regarding professional, collegiate, and Olympic sports activities as well as a new horse racing form.

Most fascinating is the statistical database dating back to 1972. The database can tell you, for example, the record for a particular major league pitcher in all games where he has had at least two days rest vice three days. Team records in particular parks and under particular weather conditions are available as well as individual player stats.

The service requires an Olympian \$69.95 signup fee as well as some major league non-prime time connect charges of \$0.56 per minute (\$33.60 hourly) at 1200 bps. To get a **FREE** demo account number and password, dial (800)321-5562. Computer Sports World, 1005 Elm St., Boulder City, NV 89005.

THE HELP SCREEN

Gannett News and USA Today bring us **THE HELP SCREEN** BBS operating out of Arlington Virginia at (703)524-3982. The board runs on PCBoard software and the sysop is Gary Gunnerson. The board is sponsored by Gannett and USA Today. Notably, users who would like to apply for a position with Gannett or USA Today can upload a resume via the BBS. You might want to pay particular attention to spelling and grammar before doing so...

READMACH.ARC

A recent phenomenon on local BBS is the spread of .MAC image files. These are often scanned photographs of questionable taste, but occasionally a stunning animal photograph can be found along with some fairly humorous cartoon graphics including a number of Bloom County characters. The scanned art is stored in bit-map image files usually in a format familiar to Apple Macintosh computers. The files range in size from 10 KB up to about 35 KB depending on complexity and detail.

Some innovative software has appeared in the shareware domain to allow IBM compatible computers to display these images. This didn't require a great

deal for machines equipped with EGA graphics. But the majority of clone owners use a screen graphics standard termed Hercules monographics. It's cheap, and it allows detailed graphics display on a monochrome monitor.

Micro Technologies Incorporated of Belleville Illinois brings us a utility titled **READMACH** allowing the Hercules standard monographics machine to display these Macintosh format scanned images. **READMACH.ARC** allows Hercules compatible system owners to download and view Macintosh graphic format files. The program is quite small and quite simple to use.

The unarchive process renders a file titled **READMACH.COM**. Execute this file and initially you will see a blank screen with a cursor in the upper left hand corner. Press **ENTER** and a menu will appear on screen allowing you to load a picture, print a picture, set printer parameters, or return to **DOS**. There is a **FILE NAME:** prompt at the bottom of the screen.

To view a .MAC or .PIC file, simply enter the file name. Don't forget the .MAC or .PIC file name extension. If you leave it off, for some reason the program crashes - locking up your system and necessitating a reboot. The program will load the picture and display it on screen. The aspect ratio is quite different from the average monitor and the image fills about 2/3 of the screen. But the effect can be absolutely stunning. **BENGAL.MAC** for example is a scanned photograph of the head of a bengal tiger. The first time you load a photo like this, it literally appears to leap off the screen at you. A far cry from the graphics you may be accustomed to seeing on your monitor.

To print the file out on your printer, press **P**. The program works well with Epson compatible dot-matrix printers. The graphic prints out line by line and it can take as long as 20 minutes to print some detailed files. Many area BBS are stocking a wide array of .MAC files - including some fairly heavy duty pornographic shots. At least one local BBS stores digitized photos of users for other users to download.

READMACH.ARC, along with a fairly good selection of .MAC files, is available locally from **FIDO NBS 104/607** at (303)497-3934. Micro Technologies Inc. also maintains a BBS at (618)233-2315. Micro Technologies Inc., 921 Royal Heights Road, Belleville, IL 62223; (618)233-2314 voice.

PROCOMM + TEST DRIVE

Bruce Barkelew, Tom Smith, and David Matthews joined forces a few years ago to sell a communications package they eventually titled **ProComm**. It's since evolved into one of the more popular shareware products with over **31,000** registered users. DataStorm Technologies finally released the long awaited **ProComm+ 1.0** upgrade to **ProComm 2.4.2** on **February 12**. The new program had been originally advertised in **November 1987**.

The program is available in the file **PCPLUSTD.ARC**. The file contains the necessary **.EXE** file as well as some sample scripts for accessing **GENie**, **CompuServe**, and **The Source**. The accompanying documentation file may be a shock to **ProComm 2.4.2** users. It's barely **16** pages in length including registration forms and barely touches on program operation. The new **ASPECT** script language is dealt but a glancing blow. But enough is included to "test drive" the new release and that was pretty much the authors intent. Registered **2.4.2** users can upgrade for **\$25** and all others must cough up a fairly proud **\$75**. Those who pay the freight will receive a typeset manual of some **300+** pages as well as some utility programs and **90** days of telephone support (**5** calls). We view this documentation ploy as a legitimate and appropriate device to entice shareware aficionados into registration of their copies. Other than some minor and fairly esoteric keyboard remapping functions, the program is a full featured version of the commercial version. The authors have clearly avoided the controversy garnered by some recent "crippled" shareware offerings.

The program greets you with an entirely redesigned introductory screen. It looks good on a monographics monitor but there have been some reports of an odd blue smear over half the screen when using some of the more exotic **EGA** multisync monitors.

One new feature sure to be a winner with novice users is a truly helpful context-sensitive help function. Press **ALT-Z** from most anywhere in the program and you will call up several screens of useful information.

ProComm has been the king of terminal emulation among shareware programs all along and that is continued strongly with this release. A total of **16** menu selectable emulations are available including **VT 52**, **VT 102**, **IBM 3101**, five **Teletype** models, two from **Wyse**, and several others. Best of all, each telephone directory entry can have a different emulation assigned directly to it.

The dialing directory sports some major improvements. The directory has been expanded to **200** entries and multiple directories are supported. Entries can be dialed simply by placing the cursor over the desired **BBS/entry** and pressing **ENTER**. While this seemed to work reliably, the dialing sequence and overall responsiveness in the dialing directory was painfully slow on an **8 MHz 8088** machine. A utility is provided to convert **ProComm 2.4.2** dialing directories to the new format. We would love to see an **ASCII** import function to allow "foreign" lists to be imported to the dialing directory.

File transfers are supported by **13** supplied protocols including **TELINK**, **SEALINK**, and **WXMODEM**. Notably absent was the immensely popular **ZMODEM** protocol originated by Chuck Forsberg. But **ProComm +** does include three external protocol hooks right in the file transfer protocol menu. These hooks make it very easy to add protocols to the program. With Mr. Forsberg's propensity for updating **ZMODEM** roughly every **15** days, this approach might just have some advantages. Like all new communications programs, the new plus version is plagued by reports of file transfer difficulties. Half of these reports will eventually be found to be "operator error". The rest will usually be fixed in the first upgrade. We used **SEALink**, **Telink**, and **YModem** uneventfully. We did not thoroughly test all protocols on large files.

ProComm has always allowed you to use your own text editor/word processor by assigning it to the **ALT-A** key. Press the key and up pops your editor. Escape from your editor/word processor and you are back in **ProComm**. The feature was so popular, DataStorm added two "hot" keys: **ALT-J** and **ALT-U** that you can assign to **ANY** program. List utilities, **ARC** utilities, and **READ-MAC** programs might all be useful here - an excellent addition.

The setup program has been expanded and the menus are cleaned up somewhat from the prior release. We found setup fairly straight forward for those familiar with the pedantic vernacular of modem communications. The context sensitive help screens were welcome here. But generally, setting up a communications program to work with your modem and your PC is always a challenge for the novice. **ProComm Plus** does feature support for **8** serial ports: **COM1** thru **COM8**. Modem speeds up to **115,200** bps are supported.

Overall, we found the feature additions welcome and appropriate while retaining the basic interface of the familiar **2.4.2** version. We were somewhat dismayed by an apparent slowdown in keyboard response - probably the inevitable result of adding features. Still, the snappy action of **2.4.2** is just not there - particularly with regards to the new dialer. Some delays were

simply unacceptable. Perhaps in the newer **AT** and **386** class machines it would not be so noticeable. We rate the **\$75** registration fee as noticeably proud for a shareware registration. DataStorm seems torn between the financial allure of commercial software and the free press of shareware. Splitting the difference is creative and adventurous - but not necessarily successful. We're curious to see how that works out.

We recommend the program and think it may be particularly well suited to first time users by virtue of the context-sensitive help.

ProComm maintains a BBS at **(314)474-8477** where **PCPLUSTD.ARC** is available. GENie subscribers can access **PCPLUSTD.ARC**, numerous utilities, script files, and hundreds of messages discussing the product by entering **DATASTORM** at any prompt. Locally, the program is available for download from **DENVER TECH COMPUTER** at **(303)799-4813**. DataStorm also maintains a toll-free voice line for orders at **(800)626-2723**. DataStorm Technologies, Inc., 1621 Towne Drive, Suite G, Columbia, MO 65205; **(314)474-8461**.

PC-FILE+ VERSION 2.0

Jim Button was one of the earliest pioneers in the development of the shareware distribution technique for software. Starting with a church mailing list database program, he's grown to become one of the top four shareware names sporting a staff of **15** and **1987** revenues in excess of **\$2,250,000**. His latest release, **PC-File+ version 2.0**, says a great deal about how he got there.

PC-File is a very easy to use and capable database program. It hasn't received quite the press of dBase III+ or R:base System V largely because the program lacks a development language. But for **99%** of those using PC's and a database program, the arcane world of database languages and the cryptic interface of these programs can be overwhelming. As one frustrated user put it, "There just isn't anything I need to remember quite that badly."

PC-File is the database program for the rest of us. It's menu driven and the new version sports a very powerful context-sensitive **ALT-H** help key that calls up one of over **200** available help screens. Additionally, a teach mode can be switched on or off to walk you through creation of a database application. The menus allow you to create a custom database step-by-step in an impressively straight forward manner.

A shareware database not powerful enough for you? Think again. The new release allows **65,533** records of

up to **3000** characters with **70** fields available per record with a **200** character per field limit. The program claims to be six times faster than dBase at file retrieval. United Airlines probably couldn't run on it. But most home, office, club, church, and small business applications will find it more than adequate.

What the program lacks in development language it makes up for in usable features. The new release includes some fantastically powerful graphics functions allowing creation of vertical and horizontal bar charts, pie charts, line graphs, and scatter graphs directly from database data. The program supports a variety of printers including the HP Laserjet. A calculator function automatically detects and uses a **8087/80287** math coprocessor.

The program features strong support for mailing tasks including mail merge using your own word processor or a built in "letter writer" mini word processor.

Documentation consists of a **270** page manual. We found the book well organized. But a rather strange sans serif type style was used that was extremely difficult to read for any length of time.

One increasingly important element in any major software title is its ability to exchange data with the rest of the world. PC-File+ passes muster here too, supporting formats for ASCII text, Word Perfect, dBase, PC-Calc, DIF files, and more.

The program features **22** macro keys that are configured using a simple "record" function to automate repetitive tasks easily.

Overall, we found the program visually attractive, very easy to use, and surprisingly powerful. ButtonWare maintains a BBS titled **BUTTON-NET** at **(206)454-2629**. The program retails for **\$69.95** with upgrade for registered users of earlier versions running **\$30**. A toll-free order line is maintained at **(800)JBUTTON**. ButtonWare, Inc., 325 118th Ave. SE, Suit 200, Bellevue, WA 98005; **(206)454-0479**.

COMMUNICATIONS TERMS

Like many new areas of technology, data communications has evolved its own terms, abbreviations, acronyms; in short - a vernacular. The initiates in the field toss these terms about wildly while too often the neophyte struggles not so much with the concepts as with the peculiarities of the language. We cautiously present the following list of terms peculiar to telecommunications and telecomputing. We'll feature a few more of these terms in each subsequent issue of **Denver PC Boardwatch**.

BAUD Unit of signaling speed equal to the number of discrete conditions or signal events per second; one unit interval per second. Usually associated with the transition between tonal frequencies in asynchronous modems. Notably, **300 baud** transmission transfers 1 data bit for each tonal transition making the terms **300 bits-per-second (bps)** and **300 baud** effectively interchangeable. This equivalency disappears immediately at **1200 bps** because the transmission actually occurs at **600 baud**. Quadrature phase modulation of the signal allows a single tonal change (baud) to transmit 2 bits of intelligence. A further extension of this technique allows **2400 bps** modems to encode 4 bits per baud.

CCITT Comite Consultatif International Telegraphique et Telephonique; the International Telegraph and Telephone Consultative Committee. An international communications consortium made up of **162** member nations - a slightly higher membership than the United Nations. Establishes communications standards particularly as applicable to data communications.

MNP Microcom Networking Protocol. A six level communications protocol supported by Microcom Corporation for its line of modems. Provides file compression/error correction within the hardware eliminating the need for software error correction. Use of **MNP** can cause apparent data throughput greater than the bps rating of the modem. Modems on each end must be set for **MNP** and for the same level (1 to 6).

BACK ISSUES AVAILABLE

Our recent offer of **1987** back issues went over particularly well among some of our newer subscribers. As a result, we will continue the offering. You can receive the full text of all ten **1987** issues on 5 1/4 inch **IBM 360 KB** floppy diskette for **\$12.95**. These **ASCII** text files contain all articles from our **1987** issues. When used with any of the excellent text retrieval programs available, the files comprise a reference vendors, on-line services, and BBS mentioned in the past year. Limited quantities of printed back issues are also available at **\$3** each. Send check or M.O. to **Denver PC Boardwatch Back Issues**, 5970 South Vivian St., Littleton, CO 80127 or charge to MC/VISA by dialing **(303)973-6038**.

EDITOR'S NOTES

This month marks the first decrease in the number of boards listed in the year **Denver PC Boardwatch** has been in publication. The drop is the result of the recent addition of the **719** area code to the state. Adios to the many excellent BBS down in the Colorado Springs area.

Our list this month is presented with two innovations. All boards are grouped by hardware class (Apple, IBM, C-64, etc.) and alphabetized within the class. And we've added a dollar sign (\$) designator to our descriptor field for those boards soliciting donations or charging a fee. Because of a number of recent incidents involving trojan horse programs, viruses, and other attacks, a number of local sysops have either converted to commercial service or are at least requiring a modest fee. These boards are so noted by the dollar sign as the first character in the description field. While these boards are still far in the minority, we note with sadness the state of affairs that causes these changes.

We've also been the subject of some recent slanderous attacks. There always seems to be a small minority who seek to gain control of any medium in an attempt to twist it to their own devices. Failing that, they inevitably seek to destroy it. Two local sysops have mounted a marvelously energetic disinformation campaign aimed at **Denver PC Boardwatch**. While no permanent damage was done, they did manage to inconvenience a remarkable number of innocent bystanders before their own tactics of piracy, copyright infringement, forgery, and harassment entangled them. To the many who telephoned, wrote, and left E-Mail in support of **DPCB** and publicly decried the deplorable tactics of this pair of social cretins -our profound thanks.

Our featured listing of Space and Astronomy BBS was initially formed by Tom Meyer and Robert Brumley of **SPACE NETWORK BBS (303)494-8446**. With their permission, we used their list as source data. A much more detailed description of each listed board is available on their board along with a rich variety of text files concerning manned space exploration.

The release of **PROCOMM+ TEST DRIVE** and **TELEX 3.0** brings a new level of sophistication to shareware communications software. BBS software is improving dramatically and local entrepreneur Adam Hudson has brought that another step forward with his popular **QUICK BBS** software. Modem speeds are going up and prices are coming down with **2400 bps** becoming increasingly common and generic cards available for around **\$150** in some areas. Commercial services are dropping prices as well and increasing features. General Electric GEnie is rumored to have reached **83,000** subscribers now at **\$5** hourly. Compuserve and The Source are both featuring "no signup fee" promotions via direct mail currently. Trintex, the videotext service sponsored by IBM and Sears is finally conducting on-line trials of its Prodigy product in Hartford Connecticut. All in all, it's a very good time to own a PC and modem. Stay connected *).

Jack Rickard.

DENVER PC BOARDWATCH

LIST OF AREA CODE 303 ELECTRONIC BULLETIN BOARD SYSTEMS AND ON-LINE SERVICES - APRIL 1988

TITLE	PHONE	DESCRIPTION	TYPE	BPS	SOFT	CITY	SYSP
Aurora Multi-System	745-3414	Amiga/Atari/IBM/Apple/Commodore	Amiga	3/12/24	BBS-PC	Aurora	Greg Kanis
C.D. Players	825-0419	Computer Discount On-line Store/Amiga	Amiga	3/12/24	TBBS	Denver	Tony Scott
Greenline	469-2053	Amiga Messages and Downloads	Amiga	3/12	BBS-PC	Broomfield	Phil Green
Mile High Software Exchange	430-0243	Commodore Amiga Public Domain Software	Amiga	3/12	ALFA-III	Arvada	Rick Lowry
Aces High	329-6579	Programming/General Messages	Apple	3/12	GBBS	Denver	Glenn Hayhurst
AFSNet	693-6737	Aurora Public Schools Network	Apple	3/12/24	GBBS	Aurora	Columbia Middle School
Aurora Net	680-9292	Protea Prime/Elite Support Board	Apple	3/12/24	Protee	Aurora	Ken Scrogan
Box's Cabin, The	424-9185	Apple / Technical Notes	Apple	3/12/24	Protee	Arvada	Ken Roberts
C.A.C.H.E.	745-4960	CO Apple & Compatible Home Enthusiasts	Apple	3/12/24	GBBS	Denver	???
Club House, The	756-9134	Rp Games - Golf Format - Messages	Apple	3/12	GBBS	Denver	Pinsetter
Code 5150	696-6673	Lunatic Discussions / Crazy People	Apple	3/12/24	GBBS	Aurora	Chris Thilges (Grunt)
Cutting Board, The	427-2413	20 MB/TONS of Stuff!	Apple	3-17,400	GBBS	Lakewood	Steve Feiler
Dark Side of the Moon	469-3437	Matchmaking/Dating for Teens	Apple	3/12	Protee	Broomfield	Marc Anderson
Denver Deaf-Net	989-9245	Hearing Impaired/Computing	Apple	3/12	Protee	Lakewood	David Sheneman
Discovery, The	449-8946	Music / General Messages	Apple	3-96	Alphall	Denver	???
DJ	789-0500	Galactic Conquest Game On-line 40 MB	Apple	3/12	GBBS	Englewood	David Metzel
GateKeeper, The	755-4210	Gateway High School	Apple	3/12	GBBS	Aurora	???
Genesis Project	287-8267	Apple II General	Apple	3/12/24	Protee	Commerce City	Gene Humbert
Greeley-Com-Net	1-351-8861	Modem Users Board	Apple	3/12/24	GBBS	Greeley	Lowell Shatraw
Hollows, The	428-0372	Smoke Signal Software/PRIME BBS Support	Apple	3/12	Protee	Denver	Vince Cooper
L&L Support	420-3568	Primary GBBS Pro Software Support BBS	Apple	3/12/24	GBBS	Arvada	Lance Taylor-Warren
LES-COM-NET	233-5824	Lesley College Communications Network	Apple	3/12	GBBS	Lakewood	George Willett
Mom's BBS	690-4913	General Message/Socializing	Apple	3/12	ALFA-III	???	???
NCC 1701 Enterprise	287-6732	Star Trek Theme	Apple	3/12/24	Protee	Commerce City	???
Next Generation	425-6235	Online Games	Apple	12/24	Protee	Golden	Tony ???
Odyssey III	691-0169	\$ Adult(18) / Sex Oriented SPM-8AM	Apple	3/12	GBBS	Denver	Sundance
Sheridan & Associates	935-1489	Buy / Sell / Trade - Chess History	Apple	3/12	GBBS	Denver	Ken Sizer
Taj Mahal BBS/Supertac	451-7222	20 MB Apple Downloads	Apple	12/24	Protee	???	Allen Kumar
Thieve's Inn	697-1244	Medieval Theme	Apple	3-96	Protee	Morrison	Brandon Hiet
Timberline Saloon	798-1207	Apple II - Foul Language a Specialty	Apple	3/12	GBBS	Aurora	Sam Walsh
Trekker World	745-9530	Star Trek Fanzone 7AM-10PM	Apple	3	GBBS	Broomfield	Robert Morgan
Four Wheeling BBS, The	469-4954	Jeeping / Camping / Outdoors	Atari	3-56	Forem	Arvada	John Ferguson
Mile High Forum	431-1404	Outstanding Atari ST Database - HST 9600	Atari	3/12	Forem	Arvada	???
Mycroft	777-8898	Horizon Computer/National Atari BBS List	Atari	3/12	TODAMIS	Denver	Phil Michaelson
Pro-Cyber Perimeters	721-6667	Online Games - Trivia Quiz - 20 MB	Atari	3/12	Carina	Englewood	The Subjugator
Ron and Shannons BBS	978-0298	Atari Support 5.4 MB XE 130	Atari	3/12/24	OASIS	Englewood	Ron/Shannon Sellers
Skyline Computers	457-0320	Atari ST Support, Files, etc.	Atari	3/12/24	Forem	Denver	Dave Lloyd
White Runes of Tinuviel	972-8566	Tolkien Subjects/Dungeons and Dragons	Atari	3/12	Stadel	Littleton	Andy Strasheim
ZAPI	367-4103	Atari/ST/8 Bit	Atari	3/12	Oasis	Aurora	???
Isle of Melibone	642-0968	Commodore board	C-128	3	C-Net	Boulder	ELRIC
Phasar	745-4305	Teen Conversation - Advice Column	C-128	3/12	C-Net	Aurora	Roy Rush
Regimental Headquarters	375-9556	Commodore - Military Theme	C-128	3/12	C-Net	Denver	Bob Greear
Roach Motel	697-1225	Commodore 7E2	C-128	3/12	C-Net	Morrison	Bob Naple
Albuquerque Starport	494-7224	Commodore Network Systems International	C-64	3/12	C-Net	Boulder	Greystoke Mindmaster
Colorado Commodore Club BBS	751-3448	Commodore Computer Info	C-64	3/12	C-Net	Northglenn	???
Comm-Net Information Service	366-2341	\$ Excellent Info for Commodore Products*	C-64	3/12	Custom	Aurora	Tele-Net Inc.

Comm-Net Information Service	366-2744	\$ C-64/C-128/Amiga Info-Dnlds-Messages *	C-64	Custom	Aurora	Tele-Net Inc.
Comm-Net Information Service	366-7177	\$ C-64/C-128/Amiga Info-Dnlds-Messages *	C-64	Custom	Aurora	Tele-Net Inc.
Comm-Net Information Service	340-2473	\$ C-64/C-128/Amiga Info-Dnlds-Messages *	C-64	Custom	Aurora	Tele-Net Inc.
Comm-Net Information Service	366-3898	\$ Service Jokes/Weather/Sports/Database *	C-64	Custom	Aurora	Tele-Net Inc.
Death Star, The	781-6863	Fun Posting 8PM-6AM	C-64	C-Net	Henderson	Earl Miles
Dragon's Cave	934-1829	INFO NEEDED	C-64	???	???	???
Dragon's Shadow	841-3721	Fantasy / Games - Unique Logon Screen	C-64	C-Net	Parker	???
Enterprise	320-6470	Commodore Board with 3.6 MB Software	C-64	C-Net	Denver	Mr. Spock
Hack Shack	688-8406	Commodore	C-64	C-Net	Castle Rock	???
Ice Palace	494-4934	Commodore Board with Chilly Theme	C-64	C-Net	Boulder	Snowbird
Laboratory BBS/SUPERTAC	287-5274	Commodore with Laboratory theme	C-64	???	Denver	Professor Beaker
Mailbox BBS	427-0725	Ham Radio/Sports/Swap/Adult Jokes	C-64	C-Net	Westminster	Richard Miller
Nunnery, The	467-1240	Foul Language - C-64 BBS List	C-64	C-Net	Arvada	The Nun
Pazzuio's Palace	934-1829	Commodore Board	C-64	C-Net	Denver	Forufo Pazzuio
Phone Connection	426-7969	Commodore	C-64	C-Net	Westminster	The Lineman
Realm, The	937-0215	Royal Theme - Complete with King	C-64	C-Net	Lakewood	Bob Hennessy
Softech	423-4408	Commodore Bored	C-64	C-Net	Westminster	???
Spam Mania	423-0348	Areas Longest Logon Message	C-64	C-Net	Arvada	Spam-Master
Treasure Island	980-8031	Commodore BBS	C-64	C-Net	Lakewood	Terminator
Vern's Terminal Exchange	433-1150	Commodore Messages/Downloads/Ads	C-64	Ivory	Denver	???
Computer Know How	279-0224	Hard Disk Installation / Tech Support	CP/M	ZBYE	Golden	John Holmgren
Electronic Locksmith RCP/M	698-1523	50M Downloads (CP/M & MS-DOS)	CP/M	PBBS	Littleton	Steve Ekwall
Fantasy Mountain PBBS	278-8369	Deaf and Handicapped Issues ASCII TTY	CP/M	PBBS	Golden	Steve Shockley
Career Connection/DRUG	671-0801	Job/Resume/Denver Rainbow Users 7PM-7AM	DEC100	Fido	Aurora	Jim Turner
Mike High Epsom User Group BBS	752-2343	MHEUG Club Board	EPSON	TBBS	Aurora	Dale Bucknam
Dialamatch 118/The Brokerage	796-9721	Adult Matchmaking	Franklin	DYM	Englewood	Bob Simpson
Experience Software	798-0792	Franklin Messages	Franklin	Network	Littleton	Experience Software
Den HUG	331-0982	Denver Heath/Zenith User Group	Heath	PBBS	Wheatridge	Larry Means
World Peace PBBS	320-4822	Current Events, Politics, FOP/M	Heath	PBBS	Denver	Bucky Carr
HP-BBS 104/34	1-229-9719	Jokes, Amazing but True stories,	HP-Vectra	TBBS	Fort Collins	Rob Diehl
Adelante 104/93	443-8292	Central/Latin America Social Issues	IBM	Opus	Boulder	Zhahai Stewart
Aerie, The 104/40	623-7865	Science Fiction	IBM	Opus	Denver	Leland Dirks
AmNet On-line 104/65	1-223-1297	Animal Rights Issues	IBM	TBBS	Fl. Collins	James Cherry
Arkham Public Library 104/48	444-7686	Tradewares Game/IBM Software 6PM-8AM	IBM	Opus	Boulder	Neil Beatty
Bit Bucket, The	790-7024	Uses Wildcat BBS Software	IBM	Wildcat	Aurora	Ed Hamm
Broomfield Tech Center	460-0556	Computer Pros, AI Files, Consult. 6PM-8AM	IBM	Wildcat	Broomfield	Kirk Stevens
Byte Shop 104/311	794-5065	Jokes / Adult Sections	IBM	QuickBBS	Littleton	Dan O'neal
Cable Net Opus	987-9168	IBM Communications Shareware Downloads	IBM	Opus	Lakewood	Ted Gilmore
CBA Information System	329-0159	Continental Basketball Association	IBM	TBBS	Denver	???
Chivalry 104/46	699-0326	D&D - Jokes - Tradewares - Chess - QBBS	IBM	QuickBBS	Aurora	Dax Davis
Christian Protocol	693-8791	Christian Messages - Bible Text	IBM	TBBS	Denver	Ken Johansen
Club Micro 104/88	832-5850	*C*Language/Database/Communication Files	IBM	Opus	Denver	Don Marquart
CMOS	322-4078	CO Mountain Operating Systems	IBM	Minihost	???	Kevin Trullitt
Coco County Airport 104/54	343-6707	TRS Color Computer Support	IBM	Opus	Aurora	Ron Bihler
Colorado Broadcasters 104/42	572-6256	Commercial Radio Frequency Lists	IBM	Opus	Denver	Lynn Osburn
Comm-Post, The	534-4646	\$ Astronomy, Tandy 1000/2000 Jokes	IBM	TBBS	Denver	Brian Bartee
Computer Farm 123/20	1-632-0669	FCC Echo IBM Hardware/Software Sales	IBM	Fido	Ebert	Paul Hill
Computers Unlimited	762-9122	Sanyo MBC-55X Support	IBM	Fido	Englewood	Jack Campbell
Control Systems	458-6248	\$ IBM/Compatibles Subscription Board	IBM	RBBS	Denver	Tom Parker/Bill Willis
CP/M SIG INC 104/372	465-1313	Oldest User's Group in Area - CP/M - IBM	IBM	Fido	Broomfield	Al Lundquist
CSM-SPE Oil Patch 104/59	273-3239	CSM Petroleum Engineering Department	IBM	Opus	Golden	Max Bordelon

DENVER PC BOARDWATCH

LIST OF AREA CODE 303 ELECTRONIC BULLETIN BOARD SYSTEMS AND ON-LINE SERVICES - APRIL 1988

TITLE	PHONE	DESCRIPTION	TYPE	BPS	SOFT	CITY	SYSOP
Cyber-Zone, The 104/61	860-0126	Science Fiction	IBM	3/12/24	QuickBBS	Denver	Jonathan Wood
Day's End 104/20	650-5636	Downloads - Messages - Astronomy	IBM	3/12/24	Opus	Denver	Chris Day
Denver Tech Computer	789-4813	Megafiles of Downloads	IBM	3-96	PC Board	Englewood	Bill Cronister
Digger's Dungeon	452-6063	Ghoulish Graveyard Theme	IBM	3/12	???	Aurora	Grave Digger
Dog House, The	320-0501	IBM/Atari Downloads - FoRem Net Mail	IBM	12/24	Forem	Denver	Lonnie Shinault
Eagle's Nest	933-0701	General Messages/Downloads	IBM	3/12	QuickBBS	Littleton	Ronald Olsen
Education 2000 104/29	449-9807	Education Issues Kindergarten - 12th	IBM	3/12	TBBS	Boulder	Roger Salamen
eSoft Support	699-8222	eSoft Inc. TBBS Software Support	IBM	3/12	TBBS	Aurora	Phil Becker
ETA Denver 104/32	750-5042	ANSI, Messages, Weather Forecast, Dnlds	IBM	3/12/24	QuickBBS	Aurora	Rick Christensen
Eusabeia 104/18	430-8376	Christian - Full KJV Bible Downloads	IBM	3/12/24	TBBS	Federal Heights	Jim Quiesner
Excalibur 104/39	497-6051	C Program Files - C Echo Area 5PM-8AM	IBM	3/12/24	Opus	Boulder	Steve Roughton
Fido NBS 104/607	497-3934	National Bureau Standards - Jobs SIG	IBM	3/12/24	Opus	Boulder	Cathy Nicoletti
FutureWave BBS 104/57	444-1116	Games/C Language/MIDI 6PM-7AM	IBM	12/24	Opus	Boulder	Ross Sponholz
Gay Community 104/19	785-1215	\$ Messages / Downloads for Homosexuals	IBM	3/12	QuickBBS	Littleton	???
Greater Clifton PCBoard	1-241-1966	Grand Junction MUG - Ham/Packet Radio	IBM	3/12	PC Board	Grand Junction	MUG of Grand Junction
Grizzly King	666-0824	Freeware/Colorado Outdoors/Programmers	IBM	3/12	TBBS	Lafayette	Bob McDuffee
Grotto, The	694-9050	Amiga, Pascal - Ebert Personal Computers	IBM	3/12/24	TBBS	Aurora	Vincent Veritas
Hard Rock Cafe 104/25	286-7266	Back In Business	IBM	3/12/24	QuickBBS	Denver	Jeff Romero
HenJan BBS	469-4315	German/Span/Port Translations 9P-6A	IBM	12	QuickBBS	Broomfield	Henrique/Jane Barretto
Holiday's Inn 104/507	699-7738	Colorado Backroad Exploring - C Language	IBM	3/12/24	QuickBBS	Aurora	Steve Holiday
HP Haven 104/312	427-6976	Hewlett Packard Issues	IBM	3/12	QuickBBS	Westminster	Mark Willecke
Iguana's Den, The	771-5937	Teen Oriented - Filthy Language	IBM	3/12	QuickBBS	Englewood	Kevin Meyer
In To The Night 104/31	659-1897	IBM Game Files 9PM-3AM	IBM	3/12	Opus	Fort Lupton	Kris White
Info-Net BBS	680-1648	Computer's Plus Board	IBM	3/12/24	RBBS	Aurora	Computer's Plus
Info The Wind 104/63	939-9272	Support for Sharnal Software 10P-11A	IBM	3/12/24	Opus	Boulder	Dana P'Simer
Investment Lounge	759-3721	Excellent Investment/Financial Topics	IBM	3/12	TBBS	Aurora	Mark Greve
Isle of Man	447-1942	Gay Community BBS	IBM	3/12	RBBS	Boulder	???
Lakewood Department of Safety	987-7388	Police Sponsored - Law Enforcement Msgs	IBM	3/12	RBBS	Wheatridge	Larry Scheideman
Lodge, The	420-0305	Arvada RBBS Board - Needs Uploads	IBM	12	RBBS	Arvada	Harold "Monty" Montrose
Manville Info Services 104/978	978-3946	Business Software / Apple Macintosh	IBM	3/12	Fido	Littleton	???
Master Work, The 104/55	341-6614	Recently Up - General Communications	IBM	12/24	Opus	Aurora	Roy Prickett
Maverick	1-434-4211	Hardware Sales - \$10 Annual Fee	IBM	3/12/24	RBBS	Grand Junction	David Fouts
Micro World Informat	987-2671	RBBS-IBM-Commodore-Amiga-Atari 7PM-8AM	IBM	3/12	RBBS	Lakewood	Leonard Vandermate
Microlink B 104/108	972-9600	\$Excellent IBM Software Download Library	IBM	3/12/24	TBBS	Littleton	Girard Westenberg
Microlink C 104/53	455-9600	Professional Computer Sales Co.	IBM	3/12/24	TBBS	Denver	John Anderson
Microlink D 104/711	526-9642	\$ *Excellent* PC Software Download Files	IBM	3/12/24	QuickBBS	Golden	John Maxwell
Microlink Minus Two 104/204	329-9598	Professional Computer Sales Inc.	IBM	3/12	TBBS	Denver	Paul Smith
Mile Hi Tech Fidonet 104/56	973-9338	Fido News/List	IBM	3/12/24	TBBS	Littleton	Oscar Barlow
Mile High Net	671-7308	Fido Board	IBM	3/12/24	Fido	Aurora	Dave Miller
Motherboard	1-241-1419	Grand Junction - Good Software PC BOARD	IBM	3/12/24	PC Board	Grand Junction	Jennifer Dillon
Night House	252-8940	Adult Message Areas	IBM	3/12	QuickBBS	Northglenn	Night Man??
No Name BBS	988-5765	Selected Quality Shareware - New Users	IBM	3/12	Minihost	Lakewood	Jon Johnson
Nurse Link 104/52	270-4936	UCHSC School of Nursing	IBM	3/12/24	TBBS	Littleton	Chuck Mastini
On-Line Consulting 104/45	449-5251	Consultant Directory/Desktop Publishing	IBM	3/12/24	Opus	Estes Park	Lee Lasson
On-Line Shopping Service	442-5125	Boulder Home Grocery Delivery \$5 + 5%	IBM	3/12	Custom	Boulder	Pete Dempsey
P2B2 S 104/51	329-3337	Public Psychiatry / AI Themes 6PM-8AM	IBM	3/12/24	QuickBBS	Denver	Claude Warren

PC Computer Brokers	465-3729	IBM, Epson Equity, TRS-80 Club Msgs	IBM	3/12	RBBS	.....	Terry Connolly
PCjr-NET 104/904	789-4610	IBM PC Jr. Technical Info /Radio Comm	IBM	3/12/24	Opus	.....	Phil Kaiser
Phoenix TBS 104/739	841-9570	\$ 4 Lines - Online Chat/CB, INFO-MAT Mag	IBM	3/12/24	TBS	.....	Larry Kayser
Pinecille 104/28	444-7073	170 Meg - Online Order for CDB Systems	IBM	3/12/24	Opus	.....	Craig Baker
Professional System, The	740-2223	Writers, Lawyers, EDP Auditors	IBM	3/12	TBS	.....	Bob Voorhees
Quick BBS Support Board 104/24	423-3114	Home of Quick BBS Software	IBM	3/12/24	QuickBBS	.....	Adam Hudson
R.A.B.I.T.	757-9509	Colorado Highway Department - Planning	IBM	3/12	TBS	.....	Colorado Dept. Highways
Shepherds Bush 104/77	497-6968	IBM Technical - Utilities	IBM	3-96	Opus	.....	Kent Leonard
Smurf World	722-2065	Something to Offend Everyone	IBM	3/12/24	BBS-PC	.....	Papa Smurf
Sound Doctrine Bulletin Board	680-7209	Christian BBS/Sound Doctrine Church	IBM	3/12	TBS	.....	Tim Williams
Space Environment Service Cntr	497-5000	NOAA Solar Flare Forecast/Advisory	IBM	3/12	PBBS	.....	US Dept of Commerce
Space Network	494-8446	Space Exploration Information	IBM	3/12/24	TBS	.....	Tom Meyer
Steamboat Information	1-879-6741	Info on Steamboat Springs Area	IBM	3/12	TBS	.....	Steamboat Springs ???
TBS Net 104/23	699-9248	The Byread Board System Support	IBM	3/12/24	TBS	.....	Aurora Phil Becker/eSoft Inc.
Terus Public BBS 104/43	469-7161	MINDS AI TextBase Indexer Support	IBM	3-96	Opus	.....	Todd Hill
The 8th Sea 104/610	252-9235	Net 104 Coordinator - Lots of Echomail	IBM	3/12/24	QuickBBS	.....	Rod Lamping
This End Up 104/30	430-1585	Astronomy - DPCB Echo 10PM-10AM	IBM	3/12	Opus	.....	Steve Carnes
Trout Unlimited	499-2828	Trout Fishing / Water Condition Reports	IBM	3/12	Fido	.....	Ralph Stewart
Watchdesk, The 104/66	450-0822	Safety - Arson - Hazardous Material	IBM	3/12/24	QuickBBS	.....	Emit Hurdlebrink
Waterton Computer Club	977-7096	Martin Marietta Employees - 5PM-7AM	IBM	3/12/24	RBBS	.....	Ken Beaudrie
Boulder MAC Maniacs 104/49	530-9544	Apple Macintosh Messages and Files	MAC	3/12	GBBS	.....	Ed Fanner
Magle	791-8732	Macintosh / Apple - 2.3 MB Stackware	MAC	3/12	RBBS	.....	Steve Sande
Mile High Mac Meet	758-9159	Denver Macintosh Users Group	MAC	3-96	WWIV	.....	Jon Taylor
Publishing Resources Inc.	442-2011	Laser Printing/Publishing/Linotronic	MAC	3/12	RedRycer	.....	???
Radscan	1-675-3214	Enter RADSCAN as password	PDP-11/45	3/12	RSTS9.4	.....	John Henderson
Radscan	1-675-3225	Rangely PDP11 BBS Multiline - Games	PDP-11/45	3/12	RSTS9.4	.....	John Henderson
Radscan	1-675-3326	Password RADSCAN -	PDP-11/45	3/12	RSTS9.4	.....	John Henderson
Boulder Public Library System	444-2057	Library Research	Tandem	3/12	Custom	.....	Eyring Research
Boulder Public Library System	444-2074	On-Line Card Catalog - Member C.A.R.L	Tandem	12	Custom	.....	Eyring Research
C.A.R.L. Denver	830-1546	Colorado Association Research Libraries	Tandem	3/12	Custom	.....	N/A
C.A.R.L. Denver	830-1165	Colorado Association Research Libraries	Tandem	3	Custom	.....	N/A
C.A.R.L. Denver	830-0519	Colorado Association Research Libraries	Tandem	24	Custom	.....	N/A
C.A.R.L. Denver	830-1548	Colorado Association Research Libraries	Tandem	3/12	Custom	.....	N/A
C.A.R.L. Denver	830-1547	Colorado Association Research Libraries	Tandem	3/12	Custom	.....	N/A
Kings Bench 104/615	377-6725	\$ Tandy 1000 ONLY/\$2 Registration	TANDY1000	3/12/24	Fido	.....	Ralph Allison
Blue Planet	979-7299	Space Wars Game	Tandy2000	3	???	.....	Tom Nielson
Minds of Mines (MOM) BBS	273-3989	CSM Artificial Intelligence/Geotechnical	TI	3/12/24	Tigger	.....	Joe Applegate
Rocky Mountain 99ers	288-3692	Texas Instruments 99/4A 7E2	T199	3/12	???	.....	Mark Payne
Controller Board/TBBS Island	690-9423	Computer Supplies - Online Sales	TRS	3/12	TBS	.....	Mike Hastings
Crossroads	499-0457	Discussion	TRS	3/12	TBS	.....	Mark Bradford
Crossroads	989-8397	Discussion	TRS	3/12	TBS	.....	Mark Bradford
Dinosaur Board	1-652-3595	Outdated Computer Support/Zork I On-Line	TRS	3/12	TBS	.....	Chris Anderson
King's Market Bookshop	665-6091	Books, Writers, On-line Adventure Games	TRS	3/12	TBS	.....	Jim Burt
Photo Tech	781-1079	TRS 80 / HAM / Video / Camera	TRS	3/12/24	TBS	.....	Jim Gerritz
PSINet	985-2634	Parapsychology / Near Death Experiences	TRS	3/12	TBS	.....	William Tedder
Alpha BBS/Intercomex	367-1935	Enter ALP-HA - Ham Radio/Space Topics	Unk Mini	3/12	UNaXcess	.....	Cyro Lord/Robert Brumley
Alter-Net	449-7003	On-Line Games - Boardgame Sales	unknown	3/12	UNaXcess	.....	Scott VanKirk
Rocky Mountain RBBS	750-2107	INFO NEEDED	unknown	3/12	RBBS	.....	Steve Kornreich
Temple of Doom	771-9523	INFO NEEDED	unknown	3/12	???	.....	???
GLOBAL Information	286-7914	Fee Subscription / Software Database	VAX	3/12	Custom	Jim Cornstock

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